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**From:** d'Almeida, Carolyn K. [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9EC4401AFA1846DD93D52A0DDA973581-CDALMEID]  
**Sent:** 10/13/2016 9:45:59 PM  
**To:** Davis, Eva [Davis.Eva@epa.gov]  
**Subject:** RE: ST012 Containment Field Variance Memo

Thanks Eva

Its what you get with budget cuts. Hopefully we will be able to get more funding for them soon.

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**From:** Davis, Eva  
**Sent:** Thursday, October 13, 2016 2:36 PM  
**To:** d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>  
**Subject:** RE: ST012 Containment Field Variance Memo

Haven't seen consultants provide comments in this kind of format before –

The comments on the characterization aren't of much use, those on the containment system are more useful. But the comment on Table 5-1 about sampling for metals and sulfate isn't needed because we are not adding arsenic-laden sulfate (at least for now), and baseline sampling of extraction wells isn't needed, only monitoring wells need to be sampled. The comment on Figure 1 about the CZ should actually be applied to all three figures for all three of the zones.

I am working on my comments, I have them drafted and mostly edited. I will get them to you tomorrow.

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**From:** d'Almeida, Carolyn K.  
**Sent:** Thursday, October 13, 2016 4:18 PM  
**To:** Davis, Eva <Davis.Eva@epa.gov>  
**Subject:** FW: ST012 Containment Field Variance Memo

Don't know if I forwarded you techlaw comments on the 2 workplans - Do you have comments on the containment field variance workplan?

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**From:** Anderson, Michael [mailto:MAAnderson@TechLawInc.com]  
**Sent:** Friday, October 07, 2016 8:41 AM  
**To:** d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>  
**Cc:** Brasaemle, Karla <KBrasaemle@TechLawInc.com>; Rohrbaugh, Amanda <ARohrbaugh@TechLawInc.com>; Anderson, Michael <MAAnderson@TechLawInc.com>  
**Subject:** RE: ST012 Containment Field Variance Memo

Carolyn,

I've attached the two pdfs for which you requested informal reviews, with comments embedded by Amanda and Karla. Both Amanda and Karla recommend a formal review; however, the comments in the pdfs may be sufficient for your needs at this time. Please let me know how you would like to proceed and if you have any questions. I will be out of town this afternoon and Monday, so if you have questions during this time, please feel to contact Amanda and Karla directly. Thank you for the opportunity to review these documents.

Michael Anderson  
TechLaw, Inc.  
(415) 762-0564 direct

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**From:** d'Almeida, Carolyn K. [<mailto:dAlmeida.Carolyn@epa.gov>]  
**Sent:** Friday, September 30, 2016 10:33 AM  
**To:** Anderson, Michael <[MAnderson@TechLawInc.com](mailto:MAnderson@TechLawInc.com)>  
**Cc:** LINCOFF, MEILING <[Lincoff.Meiling@epa.gov](mailto:Lincoff.Meiling@epa.gov)>  
**Subject:** TDM: ST012 Containment Field Variance Memo

Michael

This document also just came in – same instructions, informal review; let me know if there are significant problems first and then we'll determine the level of review needed.. Note: we are in informal dispute on ST12, so major issues will be elevated to EPA management to resolve.

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**From:** Smallbeck, Donald R. [<mailto:Donald.Smallbeck@amecfw.com>]  
**Sent:** Friday, September 30, 2016 10:18 AM  
**To:** d'Almeida, Carolyn K. <[dAlmeida.Carolyn@epa.gov](mailto:dAlmeida.Carolyn@epa.gov)>; Wayne Miller <[Miller.Wayne@azdeq.gov](mailto:Miller.Wayne@azdeq.gov)>  
**Cc:** JERRARD, CATHERINE V CIV USAF HAF AFCEC/CIBW <[catherine.jerrard@us.af.mil](mailto:catherine.jerrard@us.af.mil)>; ([Geoffrey.Watkin@cn-bus.com](mailto:Geoffrey.Watkin@cn-bus.com)) <[Geoffrey.Watkin@cn-bus.com](mailto:Geoffrey.Watkin@cn-bus.com)>; Pearson, Stuart C. <[Stuart.Pearson@amecfw.com](mailto:Stuart.Pearson@amecfw.com)>; Davis, Eva <[Davis.Eva@epa.gov](mailto:Davis.Eva@epa.gov)>; Dan Pope <[DPope@css-dynamac.com](mailto:DPope@css-dynamac.com)>; Rohrbaugh, Amanda <[ARohrbaugh@TechLawInc.com](mailto:ARohrbaugh@TechLawInc.com)>; Brasaemle, Karla <[KBrasaemle@TechLawInc.com](mailto:KBrasaemle@TechLawInc.com)>; Levine, Herb <[Levine.Herb@epa.gov](mailto:Levine.Herb@epa.gov)>; [steve@uxopro.com](mailto:steve@uxopro.com); Bo Stewart <[bo@praxis-enviro.com](mailto:bo@praxis-enviro.com)>  
**Subject:** ST012 Containment Field Variance Memo

BCT members

On behalf of the Air Force (AF), please find attached the ST012 Containment Field Variance Memo (FVM). The AF and Amec Foster Wheeler are preparing to start implementing the construction for containment as described in the FVM the week of October 10, 2016. To support this schedule, it would be appreciated if EPA and ADEQ could identify any comments or concerns with the FVM by 10 October 2016. If we do not hear from the EPA or ADEQ by October 10, 2016 construction activities will proceed. Please let Cathy know if additional information is needed or it would be useful to have a conference call prior to mobilization.

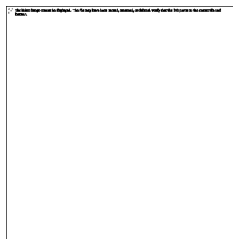
Additionally, The AF offers the following responses to the elements requested for the work plan in the email from EPA dated 15 September 2016.

- \* which wells will be used; **Response: The wells are listed.**
- \* well construction details; **Response: Well construction diagrams are included.**
- \* intended extraction rates; **Response: Wells will be level controlled rather than flow controlled. Estimates of overall extraction rates are discussed but will be refined during optimization.**
- \* hydraulic capture model; **Response: Hydraulic capture modelling is not necessary at this time. AF expects to establish containment through active extraction and monitoring as was conducted during the pre-SEE containment extraction period. The evaluation of containment effectiveness would be based on post-SEE characterization results, the new monitoring network, and the observed hydraulic response after startup of the containment extraction system.**
- \* pumps to be used and contingency for backup replacement pumps; **Response: Pump model numbers and number of backups are indicated.**

- \* consideration of accumulated NAPL recovery in pumped wells; **Response: Discussion of considerations for accumulated LNAPL are included.**
- \* treatment system design and configuration; **Response: Treatment system design and configuration from Addendum 2 is included.**
- \* field logistics/ personnel; and **Response: An estimated schedule is provided.**
- \* health and safety concerns with heated fluids **Response: Health and safety aspects are included.**

D.R. Smallbeck  
Principal Program Manager  
Construction Remediation

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